Nutrition News

PUBLISHED BY NATIONAL DAIRY COUNCIL - CHICAGO

PRACTICAL USES OF RECOMMENDED DIETARY ALLOWANCES

GRACE A. GOLDSMITH, M.D.
Professor of Medicine
Tulane University School of Medicine

The Recommended Dietary Allowances are designed for the maintenance of good nutrition in healthy persons in the United States. Since the attainment and maintenance of good nutrition is a fundamental aspect of all areas of preventive and therapeutic medicine, the physician has constant use for these standards. A dietary history and estimation of habitual nutrient intake should be an integral part of every complete medical examination.

When Recommended Dietary Allowances are used in evaluating diets, it should be remembered that the levels of intake recommended are, in general, higher than average requirements and represent goals towards which to strive. Most people whose consumption equals or exceeds these goals will be adequately nourished (in the absence of disease affecting requirements) but not all persons who fail to reach the goals will be malnourished. When diets are encountered which fail to fulfill recommendations, corrections should be made and the patient taught the meaning and importance of a good diet.

For Therapeutic Diets

The Recommended Dietary Allowances are useful, also, in planning therapeutic diets. Many diseases increase the need for energy and for certain nutrients. Some disorders are associated with malabsorption, increased loss, or poor utilization of nutrients. It is essential to know the desirable nutrient intake in health before the needs in disease can be estimated. The recommended allowances are a standard for maintenance of good health, to which additional quantities of nutrients may be added according to the specific problems as presented.

In the treatment of a number of pathological conditions, diets restricted in certain nutrients are required. Diets low in sodium are used in the management of hypertension and in the therapy of edema which complicates disorders such as heart failure, nephritis, and liver disease. Obesity is a common problem which necessitates a low calorie diet planned to meet individual requirements. Patients who have allergy frequently need diets restricted in many ordinary foods and the same is true of patients with diseases of the gastrointestinal tract. In each of these instances, the therapeutic diet should be checked for adequacy in fulfilling recommended allowances. In some instances, nutrient supplements will be required to provide desirable levels of intake.

In Health and Growth

During pregnancy and lactation good nutrition is of paramount importance. The obstetrician can use Recommended Dietary Allowances as a guide for proper dietary advice. The pediatrician can receive similar guidance in planning diets which will furnish sufficient quantities of essential nutrients for the constantly changing needs of growth.

Recommended Dietary Allowances have many uses in the field of public health, not only by physicians, nutritionists and dietitians but also by nurses, health educators, and other personnel. Evaluation of dietary habits may serve as a basis for planning educational programs. Dietary evaluation, with comparison to recommended allowances, can be used as an educational tool in group teaching, in weight control and school lunch programs.

The allowances are useful in all public health clinics but particularly in the well-baby, prenatal and chronic disease sections. They also furnish a standard for planning diets in institutions and

Dr. Goldsmith

for outlining nutritional aspects of rehabilitation programs.

In addition to being valuable in the practice of medicine and public health, the Recommended Dietary Allowances translated into terms of common foods, are of importance in teaching principles of good nutrition and good food habits in schools and in community nutrition programs. They provide a high standard to which food habits may be compared and serve as a basis for dietary improvement.

Allowances are Flexible

The allowances are not rigid or final standards. They must be adjusted to meet the needs of individuals or groups and are subject to revision as new information becomes available. Eventually, it may be possible to devise "optimal" recommendations but this is a problem for future research.

Application of current knowledge could do much to prevent malnutrition, improve the nutritional status of large segments of the population and provide better nutritional therapy in all fields of medical practice.

OCTOBER, 1955 • • VOLUME 19 • • NUMBER 1

Four Issues Annually — October — December — February — April

COPYRIGHT 1955, NATIONAL DAIRY COUNCIL, CHICAGO 6

Glances AT NUTRITION RESEARCH

Studies indicate American women benefit from advancing knowledge of nutrition; that maternal diet is vitally important to well-being of mother and child; and that a well-chosen diet is the best dietary treatment for pregnancy.

Maternal diets and prematurity—With marginal diets, the poorer the nutrient intake of pregnant women, the greater the incidence of premature births. This was the finding of a study of 404 pregnant Iowa women of low income on diets inadequate in many nutrients but particularly in calcium because of low milk intake. Of 227 mothers whose diets were rated best, 4% of the infants were premature. Of 177 mothers whose diets were poorest, 9.6% of the infants were premature. Frequency and high number of pregnancies and multiple births were associated with prematurity among better nourished mothers. Among least well nourished, there was less evidence of relationship of these factors to prematurity.

—J. Am. Diet. Assn. 31:576 (June) 1955.

No need for dietary supplements—No beneficial results were noted from supplementation of pregnant women with vitamins alone, protein concentrate alone, or a combination of vitamin and protein concentrates. More than 1000 women at a Philadelphia hospital were randomly selected for the study by referral to a nutrition clinic, without consideration of race, age, or number of pregnancies. No differences were noted in health of mothers and infants, or in physical characteristics of infants at birth or for three months after which might be attributable to dietary supplements.

—Mil. Mem. Fund Quart. 33:230 (July) 1955.

Vitamin E and pregnancy—No relationship was observed between complications of pregnancy and dietary intake or plasma levels of vitamin E in a study of 1,611 pregnant women. Dietary intakes ranged from 3 to 33 mg. of vitamin E per day. Plasma levels rose consistently throughout the course of pregnancy from 0.9 mg. to 1.4 mg. per 100 ml. of blood plasma. Except in extreme ranges of intake, there was no relationship of intake to plasma levels. The plasma levels of vitamin E were higher with increasing age and with diabetes as well as with advancing pregnancy.

—J. Nut. 55:305 (Feb.) 1955.

Diet and pregnancy complication—Meeting dietary needs while pregnant will not insure against complications such as toxemia, hyperemesis, prematurity, or perinatal death. Height and weight of mothers appear to have more influence on height and weight of their infants than do their calorie and protein intake. A good diet is needed during pregnancy to prevent nutrient loss from maternal tissues as well as for welfare of infant. The possible effectiveness and economical use of nutritional supplements for women without evidence of deficiencies requires critical appraisal by obstetricians. These are conclusions of a team who studied dietary intakes of more than 2,000 pregnant women, evaluating health and nutritional status of mothers and infants.

—Obst. and Gynec. 5:528 (April) 1955.

Dr. Goldsmith

Dr. Goldsmith is Professor of Medicine at Tulane University School of Medicine in New Orleans, and Director of the Division of Nutrition and Metabolism. She is Vice-Chairman of the Food and Nutrition Board of the National Research Council and acts as Chairman of the Committee on Dietary Allowances. She is a member of the Council on Foods and Nutrition of the American Medical Association and has served as Medical Nutrition Consultant for the U. S. Public Health Service and for the Pan-American Sanitary Bureau. Dr. Goldsmith is the author of numerous scientific articles on nutrition for books and professional journals.

Atomic Energy and Food

An important subject at a recent conference on industrial uses of atomic energy was its applications in the food industry, including cold sterilization and irradiation of insects. The conference was sponsored by the Atomic Industrial Forum and Stanford Research Institute.

School Milk Program

Representatives from state, local, and national educational groups met during the summer with federal administrators and representatives of the dairy industry to simplify administration of the Special School Milk program on the basis of experience last year. Stress is urged on educational phases and long-range goals of the program in improving food habits. Records indicate that the greatest need for effort is from 7th grade through high school.

WEIGHT CONTROL — POPULAR, PROFESSIONAL, AND STATEWIDE

By T. A. Kleckner, Executive Director, Indiana Heart Foundation

The threat to health created by excess weight is a vital concern of the Indiana Heart Foundation and the Indiana State Board of Health. While obesity is not exactly a disease, it is certainly a departure from normal health, and the extra pounds carried by the obese individual place a heavier burden upon the heart and circulatory system. Hence, the two organizations have made weight control classes an important part of their responsibility to the citizens of Indiana.

A statewide public health war against the treacherous enemy, overweight, started when the Indiana Heart Foundation teamed with the Indianapolis Health and Welfare Council to set up pilot classes on weight control.

From the initial series of classes in Indianapolis, which are currently offered in that city for the sixth time, has grown an effective statewide weight control program.

The classes have been conducted in 55 of Indiana's 92 counties and the work is to be continued until all interested groups in the state are reached. The Indiana State Board of Health and home extension service of Purdue University have joined the Heart Foundation in sponsorship and direction.

The success of the Weight Control Program can be credited in part to the careful planning that preceded the first series in Indianapolis.

The series of five classes was first announced at a public meeting in the civic auditorium. A physician spoke on reasons for overweight and the rewards of reaching and maintaining normal weight. The audience was invited to enroll in the classes which were to begin three weeks later. Additional newspaper, radio, and television publicity was given and application forms were made available in convenient downtown locations.

There was no charge for the course but applicants were required to obtain a signed certificate from a physician stating the number of pounds the person might lose and whether exercise was permissable.

Classes met at public schools and health centers. Six classes ran simultaneously and each was limited to thirty members. During each of the first four meetings, a nutritionist conducted a thirty-minute discussion class and a thirty-minute question period. The final thirty minutes were devoted to exercises led by a physical education instructor. The fifth class in the series was taught by a physician who answered medical questions which had arisen during previous meetings.

The diet recommended for slow but permanent loss of weight was designed by the sponsors and carried the influence of these "home-town" or "home-state" authorities. Participants recorded their daily food intake for the first week of the course. At the second meeting their diets were evaluated and the low calorie diet was provided. It furnished 1400 to 1500 calories per day and instructions for modification to 1200 to 1800 calories were supplied. Liberal amounts of meats, eggs, milk, cottage cheese, fruits, and vegetables were included in the diet. The class members were urged to eat three meals a day with special emphasis placed on the need for a hearty breakfast. The classes included guidance in maintaining ideal weight after reduction, consideration of food fads and fallacies, and muscle toning exercises.

The 170 men and women who completed the course lost a total of 871 pounds, or about 5.1 pounds per person, during the five weeks. Only ten failed to lose any weight and twelve lost ten pounds or more. At a follow-up meeting, six weeks later, most of them reported that they were continuing to use the diet pattern.

The entire project was a cooperative effort involving a number of community agencies. This spirit contributed appreciably to success. The adult education service of the public schools made classrooms available and furnished physical education instructors. The Indianapolis Medical and Dental Societies gave approval and physicians conducted each final class.

Red Cross volunteers "weighed in" the class members and operated film projectors. Teaching outlines were prepared by the chief nutritionist from the State Board of Health and the supervisor of physical education of the public schools. Class instructors were dietitians from local hospitals.

Ours is a serious and professional approach to weight control. The common sense theme of our entire project is that the only "best way" to lose weight is through a diet prescribed and supervised by a physician. We hope that our program will lead thousands of overweight Hoosiers to better health through proper weight control.

REALISTIC EXPERIENCES WITH FOOD AID THE MEDICAL STUDENT

By Martha Nelson Lewis, Associate Professor in Preventive Medicine and Director, Dietary Department, Ohio State University Hospital

The Senior Medical Students at the Ohio State University not only have classes in Normal Nutrition and Modified Diets, they also have a realistic experience in eating the diets they prescribe. Each section of 18 students meets for one and one-half hours at noon for ten meetings. At the first meeting, sample breakfast and supper trays are shown and the noon meal of the regular hospital diet is served. This diet is calculated to demonstrate which nutrients are provided by the various foods. Totals are compared with National Research Council recommendations to evaluate the adequacy of that particular menu and menu pattern.

At subsequent meetings this regular hospital diet is modified to meet many different prescriptions. The student is encouraged to give thought to his dietary prescription; (1) in what way do the food needs of the patient differ from those supplied in a regular diet and (2) need any adjustments be made because of the patient's inadequacy in digestion, absorption or utilization? We focus attention on telling the patient what to eat, instead of reciting a list of prohibitions and restrictions.

Most of our medical students are young men whose contacts with food have been chiefly gustatory. They know when they need a modified diet for their patient but they do not know how to instruct the patient in terms

(Continued on Page Four)

—that if 1935 rates prevailed in the United States today, 24,000 mothers would die in childbirth this year; instead about 2,000—still too many—can be expected to so lose their lives?

—that the National School Lunch Program fills a big need as evidenced by the appropriation of more than 80% of the federal funds by early summer?

—that two new ice cream flavors, guava and mango, have been tested and enthusiastically received in Florida?

—that one pound of butter uses the fat from about 20 pounds of whole milk?

—that three and one-half million French school children are participating in a new school milk program in that country?

—that a dairy expert has found that a happy and contented cow will always smile by cocking her ears forward and brightening her eyes?

—that surveys indicate that from 25 to 30 million persons in the United States are consuming excessive amounts of food, and that the resulting overweight carries with it a higher incidence of a number of diseases, primarily circulatory disorders?

THINGS YOU'LL LIKE TO READ

Nutrition Practices: A Guide for Public Health Administrators—American Public Health Assn., Inc., New York. 1955. $1.00.

This book defines and crystallizes the place of nutrition services in the total picture of public health. Although intended primarily as an administrator's handbook, it will interest and aid all persons who share the responsibility of improving the nutrition of individuals and groups. The book is the result of two years study by a subcommittee of the APHA Committee on Administrative Practice.

Better Homes and Gardens Diet Book—Meredith Publ. Co., Des Moines. 1955. $2.50.

Among the many books on obesity, there are those that are reliable, and others unfortunately less so. A welcome new one is the Better Homes and Gardens Diet Book. Its sound information is presented in a delightful way. The foreword by Dr. James R. Wilson of the American Medical Association names the book's prime purpose, "To see that you use your head more skillfully in the management of your nutritional needs."

REALISTIC EXPERIENCES WITH FOOD AID MEDICAL STUDENT

(Continued from Page Three)

of food. Many interns, residents, and staff doctors have come to the dietitian and confessed embarrassment concerning their ignorance of the nutritive qualities of certain foods.

During the study of the diabetic diet each student develops the prescription for his own diabetic diet. He writes the menu, and the next day weighs and eats the noon meal of the diet he has planned. This is a revealing experience in weights of foods and serving portions. One student had planned 600 grams of asparagus. One hundred grams of lettuce appears frequently in the diets. All exclaim over the weights of the various sizes of so called "average servings." To the skinny fellow an "average portion" is one thing while to the roly-poly it is something else.

As a part of the final examination each student receives a tray with his name, a fictitious diagnosis, and diet order on the tray card. The student then looks for errors in the serving of the tray and evaluates the foods served in terms of diagnosis and diet order.

The students are appreciative of the information gleaned by eating the diets. They develop a real understanding of the bulk of an increased protein diet and the monotony which accompanies many restrictive prescriptions. They discover the impractability of certain prescriptions, as a 150 gram protein, 200 milligrams sodium diet order.

The students have stated that the impressions gained by eating the diets have given them a much better understanding of the patient's problem and more respect for his complaints and lack of cooperation. Talking about the diets or even witnessing the serving of the trays to others does not carry the impact of actual participation.

When some of the doctors who had had the course were asked for comments, all were emphatic about the lasting impressions they had received from the meals served. One stated, "Calories meant nothing to me until I had this practical experience with food." One doctor who had been out five years commented, "My whole knowledge of foods and diets seems to be what we learned eating those lunches—," and another, "Never before could I talk with a patient about his food intake with any satisfaction."

By using food as her tool the dietitian can give the medical student a realistic experience which serves many purposes. Eating the meals stimulates interest in a course many previously believed to be dull and unimportant. The medical student acquires meaningful information about food which enables him to write better diet orders and to give patients adequate dietary help. He carries into medical practice realization of the importance of foods and nutrition in the care of a patient.